

IN THE CLAIMS:

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Claim 1. (Currently amended) An energy absorber for absorbing energy of a vehicle or component of a vehicle or occupant of the vehicle in a crash situation so as to allow relatively gradual deceleration of the vehicle, component or occupant, the energy absorber including a first part, a second part and an elongate deformable member secured to the first part and extending through a deforming arrangement carried by the second part, whereby said elongate deformable member normally acts as a tie ~~or strut~~ between said first part and said second part but wherein the arrangement is such that, when the force acting between said first part and said second part in a predetermined direction exceeds a predetermined amount, said elongate deformable member is thereby forced progressively through said deforming arrangement as the distance between said first part and said second part changes and the deformable member is thereby forced to undergo plastic deformation, wherein said deforming arrangement is so configured as to flatten said deformable member whilst allowing said deformable member to increase in dimension along a cross-sectional direction perpendicular to that in which the cross-sectional dimension of said deformable member is reduced by said flattening, whereby energy is absorbed, and wherein said deforming arrangement is such as to effect such plastic deformation substantially without changing the material cross sectional area of the deformable member.

Claim 2. (Cancelled)

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Claim 3. (Currently amended) An energy absorber according to claim 1 ~~or claim~~
2 wherein said deforming arrangement includes at least one roller, bearing on said
elongate deformable member and rotatable about an axis transverse to the direction of
elongation of the deformable member, and further includes an opposing member and
wherein a flattened portion of said elongate deformable member extends between said
roller and said opposing member.

Claim 4. (Currently amended) ~~An energy absorber according to claim 1 or claim~~
2 wherein said deforming arrangement includes a pair of rollers rotatable about respective
axes transverse to the direction of elongation of the deformable member and wherein a
flattened portion of said elongate deformable member extends between said rollers.

Claim 5. (Currently amended) ~~An energy absorber according to claim 3~~ An
energy absorber for absorbing energy of a vehicle or component of a vehicle or occupant
of the vehicle in a crash situation so as to allow relatively gradual deceleration of the
vehicle, component or occupant, the energy absorber including a first part, a second part
and an elongate deformable member secured to the first part and extending through a
deforming arrangement carried by the second part, whereby said elongate deformable
member normally acts as a tie between said first part and said second part but wherein the
arrangement is such that, when the force acting between said first part and said second
part in a predetermined direction exceeds a predetermined amount, said elongate

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deformable member is thereby forced progressively through said deforming arrangement as the distance between said first part and said second part changes and the deformable member is thereby forced to undergo plastic deformation, whereby energy is absorbed, and wherein said deforming arrangement is such as to effect such plastic deformation substantially without changing the material cross sectional area of the deformable member, wherein said deforming arrangement includes at least one roller, bearing on said elongate deformable member and rotatable about an axis transverse to the direction of elongation of the deformable member, and further includes an opposing member and wherein a flattened portion of said elongate deformable member extends between said roller and said opposing member, and wherein the spacing of said roller from said opposing member is adjustable to adjust the extent to which the elongate member is flattened in passing through said deforming arrangement and thus to adjust the rate of energy absorption in operation.

Claim 6. (Currently amended) ~~An energy absorber according to claim 4~~ An energy absorber for absorbing energy of a vehicle or component of a vehicle or occupant of the vehicle in a crash situation so as to allow relatively gradual deceleration of the vehicle, component or occupant, the energy absorber including a first part, a second part and an elongate deformable member secured to the first part and extending through a deforming arrangement carried by the second part, whereby said elongate deformable member normally acts as a tie between said first part and said second part but wherein the arrangement is such that, when the force acting between said first part and said second

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part in a predetermined direction exceeds a predetermined amount, said elongate
deformable member is thereby forced progressively through said deforming arrangement
as the distance between said first part and said second part changes and the deformable
member is thereby forced to undergo plastic deformation, whereby energy is absorbed,
and wherein said deforming arrangement is such as to effect such plastic deformation
substantially without changing the material cross sectional area of the deformable
member, wherein said deforming arrangement includes a pair of rollers rotatable about
respective axes transverse to the direction of elongation of the deformable member and
wherein a flattened portion of said elongate deformable member extends between said
rollers, and wherein the spacing between said rollers is adjustable to adjust the extent to
which the elongate member is flattened passing through said deforming arrangement and
thus to adjust the rate of energy absorption in operation.

Claim 7. (Currently amended) An energy absorber according to ~~any preceding~~
claim 1 wherein said elongate deformable member is a metal tube.

Claim 8. (Currently amended) A vehicle seat assembly including a seat mounting
secured to or securable to, structure of the vehicle, a seat proper including one or more
body supporting parts, the seat proper being mounted for guided movement relative to
said structure and at least one energy absorber according to ~~any of claims 1 to 7~~ claim 1
having said first part thereof connected to one of said seat mounting and said seat proper
and having said second part connected to the other of said seat mounting and said seat

proper, whereby the energy absorber normally restrains movement of the seat proper relative to the seat mounting but, in a crash situation, can allow controlled movement of the seat proper relative to the seat mounting, whilst absorbing energy as the elongate deformable member is forced through the deforming arrangement or as the deforming arrangement is forced along the elongate deformable member.

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Claim 9. (Currently amended) An energy absorber according to claim 2 1

wherein said deforming means comprises a die defining an orifice through which said deformable member extends, the orifice including opposing flanks facing respective sides of the elongate deformable member, the deformable member including a part which is flattened or otherwise of reduced dimension to fit between said opposing flanks and an adjoining part of a dimension in the direction in which said flanks are spaced apart, which is greater than the spacing between said flanks, the dimension of said orifice measured transversely perpendicular to spacing between said flanks being greater than the greatest transverse dimension of the tube after the latter has passed through said orifice.

Claim 10. (Cancelled)
